# Latitudinal Variation in Height and Seed Set of Purple Loosestrife Volunteer Program

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## **NEED FOR THE STUDY**

Native to Eurasia and Australia, purple loosestrife (*Lythrum salicaria*) is one of the most aggressive invasives of wetlands in the northern part of North America (Nyvall 1995). While purple loosestrife may be detrimental to wildlife habitat and/or wetland functioning in North America, this claim has been disputed recently (Hager and McCoy 1998). Whether or not it can be considered to be extremely detrimental to invaded wetlands, managers of wetlands need to have a better idea of whether or not purple loosestrife is likely to invade their regions (e.g., southern United States), and if there are any environmental constraints of its growth that can be used to control purple loosestrife in invaded wetlands. The purpose of this study is to better understand the physiological capability of purple loosestrife to grow in various latitudes in its native (Eurasia/Australia) versus invasive environments (North America), to help decision-makers make projections about the potential of the species to spread to unoccupied latitudes.

## **CALL FOR VOLUNTEERS!**

Instruction forms and information for volunteers who wish to participate in the research are available on the fact sheet attached to this poster and the Purple Loosestrife Volunteer website: http://www.nwrc.usgs.gov/special/purplel/index.htm.

### Literature Cited

Hager, H.A. and K.D. McCoy. 1998. The implications of accepting untested hypotheses: a review of the effects of purple loosestrife (*Lythrum salicaria*) in North America. Biodiversity and Conservation 7: 1069-1079.
 Nyvall, R. 1995. Fungi associated with purple loosestrife (*Lythrum salicaria*) in Minnesota. Mycologica 87: 501-506.

Ture, C., N. Akanil Bingol, B. A. Middleton. Characterization of the gap environment of *Lythrum salicaria* L. and its relationship to seed production and stem height along arid rivers dominated by *Populus alba* L. in Turkey (under revision).



Photo by Ken Systma, UW Madison Herbarium, http://www.botany.wisc.edu/wisflora



Volunteer, Can Bingol holds a seed trap along the Porsuk River, Turkey. The light gap behind him shows purple loosestrife in the center of the gap where purple loosestrife grows (Ture et al., in revision.



## Many Thanks to our Worldwide Volunteers! AUSTRALIA

**New South Wales:** 

Dr. Paul Adam

## **EURASIA**

**Czech Republic:** 

Dr. Keith Edwards

Furkey:

Dr. Nuket Akanil Bingol & Dr. Cengiz Ture

## NORTH AMERICA

**U.S.:** 

## **Illinois:**

Mr. Ben Handley

**Indiana:** 

Dr. Joy Marburger

**Massachusetts:** 

Mr. David Delaney

**Tennessee:** 

Mr. Ben Handley

Virginia:

Ms. Darelyn Handley

## Wisconsin:

Mr. J. P. Anderson

Ms. Jenny Carol

Mr. Paul Cook

Ms. Heather Lynn Lindon

Ms. Christi Maki

Mr. Robin Maerklein

Ms. Kathryn Theiss Ms. Teresa Walte

Mr. Kip Welton

#### Canada:

Ontario/Quebec:
Dr. Raja Sengupta & Mr. David Delaney

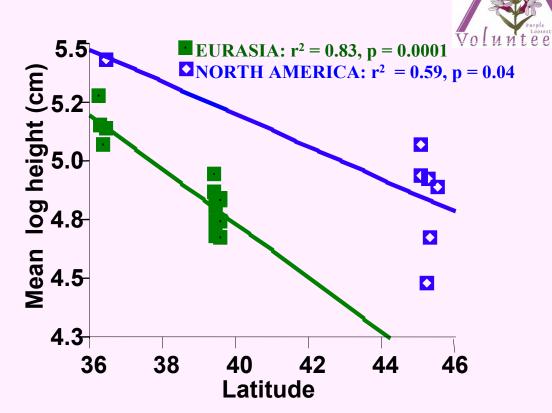


Figure 1. Preliminary data of mean log height (cm) across latitudes in Eurasia vs. North America collected by volunteers. While the current fit of the regression is spurious, the figure shows the current status of the building data set. We need volunteers at all latitudes, particularly the ones with data gaps.

## **SUMMARY AND CONCLUSIONS**

- •Purple loosestrife has different physiological ability to grow in various climates associated with latitude.
- •Purple loosestrife may not have the ability to invade all portions of North America (e.g., southern United States).
- •Follow-up studies of the growth of ecotypes of purple loosestrife under simulated climates are planned.
- •Studies of latitudinal variation helps decision-makers decide how to focus their efforts before invasion occurs.
- •Volunteer collected data can be valuable in advancing research questions, and their efforts are particularly helpful in this fiscal climate of shrinking budgets!